

## Defining Final Disposal Options

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**Synopsis:** As the Board of Health considers secure medicine return, it must define methods to be used for safe disposal of collected covered drugs. The draft rule & regulation may include standards and options. Disposal methods must be in compliance with all applicable state and federal laws, regulations, and guidance on pharmaceutical waste disposal.

**Background:**

- **Chemical characterization and regulatory context:** The current standard for destruction of waste pharmaceuticals is high temperature incineration to destroy the active pharmaceutical ingredients, at an appropriate facility depending on the waste characterization profile of the medicines. The chemical properties of some medicines designate them as hazardous waste under federal RCRA regulations and most others are designated as dangerous waste under Washington State regulations. Mixtures of waste medicines from business sources such as pharmacies, hospitals, or manufacturers must be disposed of at a hazardous waste incinerator. The same pharmaceutical wastes generated by households are exempted from federal hazardous waste and state dangerous waste regulations. King County’s Waste Acceptance Rule and Seattle’s Municipal Code state that dangerous and hazardous waste from households should be disposed of properly, and not placed in the solid waste stream.
- **DEA’s disposal standard:** DEA’s recently proposed rule states that collected controlled substances must be rendered “non-retrievable”. “Non-retrievable” means to irreversibly alter any controlled substance’s physical and/or chemical state to render that controlled substance unavailable and unusable for all practical purposes. DEA does not otherwise prescribe the destruction method, but lists incineration and chemical degradation as examples of non-retrievable destruction. DEA states that flushing or mixing controlled substances with kitty litter or coffee grounds do not meet the non-retrievable standard.
- **EPA’s disposal recommendation:** The U.S. EPA recently made its first official recommendation for disposal of household medicines collected by take-back programs. EPA recommends incineration to address both environmental and diversion concerns. EPA recommends the use of “a permitted hazardous waste combustor, but when that is not feasible, at a minimum, they should be sent to a large or small municipal waste combustor” that meet specific regulatory standards. See U.S. EPA Memorandum. Sept. 26, 2012.
- **Current practices:** Existing voluntary medicine take-back programs currently use several different high-temperature incineration facilities, including:
  - Clean Harbors (UT), which is permitted as a hazardous waste incinerator; and
  - Spokane Waste-to-Energy (WA) and Covanta Waste-to-Energy (OR), which are both permitted as large municipal solid waste incinerators.

Some law enforcement programs may utilize other combustion or incineration facilities, such as lumberyard furnaces or industrial boilers, under a WA regulation that provides law enforcement with a “conditional exclusion” from standard disposal practices. See, “About Disposal of Waste Medicines from Residential Medicine Take-back Programs”.

Considerations for this decision include:

- Environmental and health protection standards.
- Accessibility of appropriate facilities.
- Potential for development of new technologies in the future that offer superior environmental and health protection to high-temperature incineration.

**Staff Recommendation for Approval or Modification:**

1. Disposal of collected covered drugs must achieve a non-retrievable standard that alters the chemical state of the pharmaceuticals through irreversible means. Disposal of collected covered drugs to sewer or in solid waste landfills does not meet the non-retrievable standard and is prohibited.
2. Disposal of all covered drugs collected by stewardship programs shall be by high-temperature incineration at a properly permitted facility, in compliance with all applicable laws and regulations governing the disposal of pharmaceutical waste.
3. Use of a RCRA permitted hazardous waste incinerator is the preferred standard. Use of a large municipal solid waste incinerator, meeting standards defined in WAC 173-434-160 or EPA's standards for Large Municipal Waste Combustors, may be approved by the Department if use of a hazardous waste incinerator is not feasible.
4. A stewardship program may petition the Department for approval to use alternate disposal technologies that provide superior environmental and human health protection to high-temperature incineration at a hazardous waste facility. The proposed technology must provide equivalent protection in each, and superior protection in one or more, of the following areas:
  - a. Monitoring of any emissions or waste;
  - b. Worker health and safety;
  - c. Air, water, or land emissions contributing to persistent, bioaccumulative, and toxic pollution;  
or
  - d. Overall impact to human health and the environment.
5. Stewardship programs may use disposal services of properly licensed reverse distributors, drug distributors, and other vendors, as allowed under all applicable laws and regulations.
6. Stewardship plans submitted to the Department for review shall include identification and contact information for all waste transporters and waste disposal facilities to be used by the stewardship program.

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**Attachments:**

- "About Disposal of Waste Medicines from Residential Medicine Take-back Programs" handout, originally distributed at 08/16/12 Subcommittee meeting.
- U.S. EPA Memorandum. Sept. 26, 2012. "Recommendation on the Disposal of Household Pharmaceuticals Collected by Take-back Events, Mail-back, and Collection Programs."
- WAC 173-434-160. Solid Waste Incinerator Facilities. Design and operation.
- Policy Comparison Table: #4C "Disposal of Medicines"